Date: - 27th January, 2020

Corrigendum
for
Automated DNA Sequencer (8 channel) with capacity of up gradation to 24 capillary for the Department of Microbiology

NIT Issue Date	**:**	**7th August, 2019**
NIT No.	**:**	**Admn/Tender/35/2019-AIIMS.JDH**
Pre-Bid Meeting	**:**	**19th August, 2019 at 03:45 PM**
Earlier Last Date of Submission	**:**	**30th January, 2020 at 03:00 PM**
Extended Last Date of Submission	**:**	**17th February, 2020 at 03:00 PM**
Bid opening	**:**	**18th February, 2020 at 03:15 P.M**

The following revised and additional specification will be added:-

1. Page no. 10, Point no. 1

For:

Fully automated capillary, fluorescence-based DNA Sequencer

Read:

System should occupy minimal lab footprint and should be offered as a single, integrated instrument capable of performing template DNA amplification, sequencing and primary analysis. Prepared libraries should be loaded directly onto the sequencer, and there should be no need of an ancillary system for template amplification. The sequencing workflow should allow fully automated, walk-away operation, without user intervention, for template amplification to analyzed data on a single machine.

2. Page no. 10, point no. 4

For:

Applications: Should be able to perform de novo sequencing, EST analysis, SAGE analysis, gene regulation studies, microbial diversity analysis, epigenetic change analysis, Re-sequencing, Long Read Sequencing, comparative sequencing, Fragment analysis applications like SSR, ISSR, AFLP Plant & Microbial Finger printing, Microsatellite, Long Sizing, SNP Validation and screening, Linkage analysis, Allele calling.

Read:

Applications: The system should be able to support the following applications:
(i) Small whole-genome sequencing,
(ii)Targeted resequencing

- Amplicon sequencing workflow Targeted Resequencing

- Long-range PCR

(iii) De novo sequencing
(iv) Gene editing validation
(v) Metagenomics (16S rRNA-sequencing)
(vi) Targeted mRNA sequencing
(vii) Small RNA sequencing
(viii) Multiple genome assessment
(ix) Human leukocyte antigen (HLA) sequence-based typing
The sequencer should facilitate the sequencing Amplicon, targeted RNA, small RNA, and targeted gene panel sequencing.

3. Page no. 10, point no. 5

For:

Must be able to detect and analyze at least 6 fluorescent dyes simultaneously for DNA fragment analysis.

Read:

Clonal amplification of DNA template should be fully automated on the sequencer, without the involvement of emulsion PCR.

4. Page no. 10, point no. 6

For:

Heating/cooling: Active temperature cooling/heating that can maintain capillary temperatures from 18°C to 70°C.

Read:

Temperature Variation: The system should be tolerant to temperature variation from 15°C to 30°C

5. Page no. 10, point no. 7

For:

System should be capable of both 96 and 384 well sample plate option.

Read:

To be deleted

6. Page no. 10, point no. 8

For:

Sequencing throughput: ≥180 samples/day having ≥500bp read length with quality ≥ QV20.

Read:

Sequencing throughput:

- The sequencer should be able to read through at least 15 bases homo-polymer stretches in the genome accurately.
- System should use dedicated reagents for generating data of more than 1 Gb of high-quality data passing filter.
- Sequence output should generate accurate base calls and high error free reads with greater than 80% bases with high quality Q30 score at 2x150 bp read length, derived directly from intensity data and not from a reference sequence-based, multiple-color encoding scheme.

  For metagenomics applications, microbial pool run on the System configured at 2 × 151 bp read length should delivers over >85% of bases ≥ Q30 quality score.

7. Page no. 10, point no. 9

For:

System should support read length more than 850 bases per reaction.

Read:

System should support unattended operation for at least 300 sequencing cycles.

8. Page no. 10, point no. 10

For:

Sequencing software: The vendor must supply licensed software that are optimized for the instrument in the area of de novo, Resequencing, Long Read Sequencing, and comparative sequencing, Fragment analysis applications like SSR, ISSR, AFLP Plant & Microbial Finger printing, Microsatellite, Long Sizing, SSCP, SNP Validation and screening, Linkage analysis.

Read:

- Sequencing software:
- The system should have an option of integrating with a cloud-based computing environment, for data storage, sharing and analysis.

9. Page no. 10, point no. 11

For:

Real time analysis: System software should allow real-time date quality evaluation providing immediate access to base-called or size called date to make decision about the quality of data as it is generated.

Read:

To be deleted

10. Page no. 10, point no. 12

For:

Desktop computer for data analysis: Computer system should have at least Intel Core 16GB DDR4 RAM, 2 TB GB HD, DVD-RW, Gigabit Ethernet, USB Keyboard, USB Optical Scroll Mouse, Intel HD Graphics 2500, 23" Wide TFT monitor, latest Licensed Windows, Latest licensed Microsoft Office, and antivirus software (perpetual license).

Read:

Desktop computer for data analysis: Server for data analysis: should have at least intel i-8 Core, Speed 2.5 GHz or higher, 16GB RAM, 1.5 TB Storage and workstation with 21" Wide TFT monitor, Linux License for 1 year, Monitor 20-inch LED, with Keyboard Wireless, with Mouse Wireless, with Rack (16/24 U) .

11. Page no. 10, point no. 13

For:

Applications-specific kits and reagents required to perform sequencing and fragment analysis should be available from the same supplier.

Read:

Applications-specific kits and reagents required to perform sequencing and fragment analysis should be available from the same supplier as well as the system should be open to accepting samples prepared on third part library preparation kits.

12. Page no. 10, point no. 14

For:

Suitable UPS for running the system with minimum of 30-min backup.

Read:

Suitable 3 KVA UPS for running the system with minimum of 1-hour backup.

13. Page no. 10, point no. 16

For:

Starter reagents for 500 full sequencing reactions & fragment analysis (DNA standards for 1000 fragment analysis samples).

Read:

Starter reagents for 48 microbial Whole Genome sequencing at 30X coverage should be provided.

The system should be provided with all accessories required for DNA & RNA quality control for sequencing workflow.

14. Page no. 10, point no. 17

For:

Consumables for 3,000 full sequencing reactions and sufficient number of capillary arrays, and all other consumables to run 20,000 samples should be included in the offer & supplied in 4 instalments over a period of 05 years as and when required. All consumables for sequencing and fragment analysis should be quoted separately and the prices of all the items should be frozen for seven years.

Read:

All consumables for sequencing and fragment analysis should be quoted separately and the prices of all the items should be frozen for seven years. Price List for consumables to be used for sequencing workflow should be provided along with the offer.

15. Page no. 11, point no. 20

For:

Turnkey: Temperature and humidity control device to be quoted.

Read:

Turnkey: Temperature and humidity control device to be quoted including AC if required and suitable dehumidifier.

Page No. 11, Important Clauses:

16. Page no. 11, point no. 3 of Important Clauses

For

Vendor should have at least 10 installations in India.

Read

Vendor should have at least 60 installations in India for Next Generation Sequencing systems.

17. Page no. 11, point no. 5 of Important Clauses

For

List of users of the quoted model along with their full contact details (including telephone numbers and email IDs) should be enclosed with the offer.

Read

Pre installation requirements should be provided by the bidder in its technical bid for smooth installation and demo of the system.